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Contact lens care and solutions

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Objective

After completing this session you are expected to:

- Discuss the purpose of CL care sysetem
- List components of contact lens solution
- Explain the aftercare procedures

Outline

- Introduction
- Contact lens solutions
- Contact lens solution components
- Aftercare procedures

Introduction

- Care system is one of the most crucial aspects of contact lens wear.
- Contact lens wear success depend on prescribing the appropriate lens care regimen.
- Choice of regimen depends upon factors such as lens type, lens material, lifestyle and specific patient needs.

Cont....

- **Purpose of CL care system**
- Clean lenses
- Good comfort
- Good vision
- Safe lens wear

What if ??

- Irritation and reduced comfort
- Reduced visual acuity
- Shortened lens life
- Increased potential for infection
- Increased incidence of GPC

- Convinence of care system determines:

- Patient compliance
- Frequency of lens wear
- Patient satisfaction
- Continued use of recommended care system component

Contact lens Solutions

Functions of CL solutions

- Prevent/minimize deposits
- Maintain wettability
- Provide comfort
- Prevent/reduce risk of infection

- CL care system components:

- Daily cleaner
- Rinsing solution
- Disinfecting solution/unit
- Weekly/protein cleaner
- Lubricating/rewetting solution

Components of solution

- Buffer
- Preservatives
- Tonicity agents
- Cleaning agents
- Viscosity agents
- Wetting agents
- Lubricating agents
- Chelating agents
- Soaking solution

DAILY CLEANER

Contains surfactants, viscosity enhancing agents

To remove:

- Loosely bound foreign matter
  - ✓ Cell debris
  - ✓ Mucus, lipid, protein
  - ✓ Cosmetic or other surface contamination
- Not for disinfection

- There are cleaners specifically formulated for soft lenses (e.g. Soflens Sensitive Eyes Cleaner),
- RGP lens cleaners which do not contain benzalkonium chloride can be used.

RINSING SOLUTION

- To remove:
  - ✓ Daily cleaner
  - ✓ Loosened deposits
  - ✓ Micro-organisms
- Rinse lenses after overnight storage

Eg. Saline, multi-purpose solutions

Multipurpose Solutions

- Single bottle of solution for cleaning, rinsing, disinfection, & store CL

❑ Advantages:

- Simple, convenient, and Improved compliance
- Enhanced safety due to lower toxicity & complications
- Doesn’t cause protein denaturation

Hydrogen Peroxide

- Used for deep cleaning and disinfection of contact lenses, especially for people with sensitive eyes or those prone to allergies and infections.
- • Preservative free – theoretically less allergy
- • Effective disinfection
- Never put hydrogen peroxide solution directly in your eyes or rinse lenses with it before inserting.

Disadvantages:

- Lens must be fully neutralized before use
- Decreased anti-microbial efficacy
- Potential for irritation on incomplete neutralization
- Possible recontamination

Rewetting or Lubricating Drops

- Alleviating signs of dryness and discomfort

  Flushing irritation particles from eye and CL

  Rehydrating lens

e.g R

Solutions for Soft contact lens

- The general principles for soft lens solutions are similar to those used for rigid lenses, but there are potentially more difficulties because of the possibility of interaction with the material.
- Viscosity agents are not generally

Aftercare procedures

Generally after care procedures include:

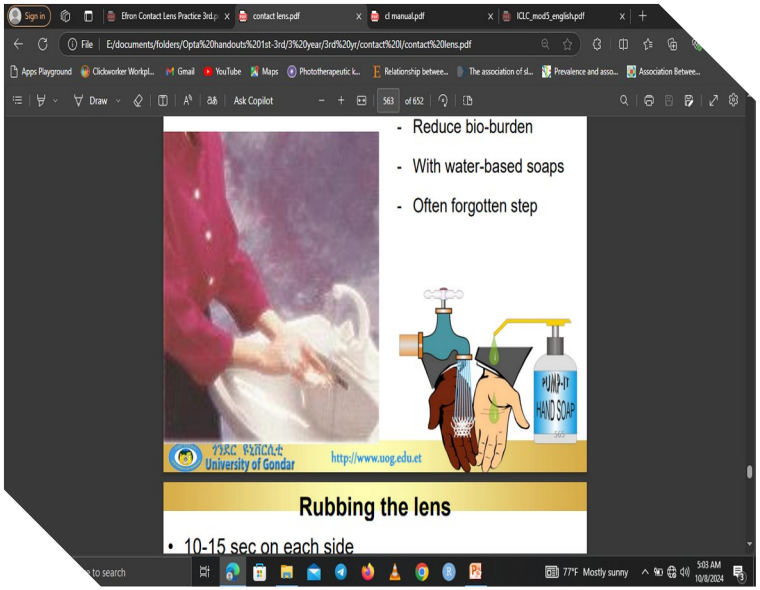
- Hand Hygiene
- Cleaning Lenses
- Rinsing Lenses
- Drying Lenses
- Storing Lenses
- Regular Eye Check-ups

Daily Cleaner Procedures

1. Wash hands
2. Place lens in the palm of the hand
3. Place 2-3 drops of cleaner on each lens surface
4. Rub with forefinger for about 15 seconds per side using a ‘to & fro’ and ‘L-R’ action. Rolling the forefinger in both directions cleans the lens periphery
5. Rinse well

Hand washing

- Reduce bio-burden
- With soaps without fragrance, oil or lotion
- Often forgotten step



Wash hands

Either rub + rinse

Or Rinse only

Disinfect

Rubbing the lens

- 10-15 sec on each side
- To and fro action
- Removal of environmental & protein deposits
- Reduces risks of infecti

- **Rinsing**

Wash off loosened debris

- Decrease risk of deposit related problem

Lens case care procedure

- Scrub with new tooth brush using cleaning solution weekly
- Rinse with saline or disinfecting solution
- Air dry up-side down
- Replace case regularly

Choice of Lens Care System

- For Soft Contact Lenses → Multipurpose or Hydrogen Peroxide Solution
- For Sensitive Eyes → Hydrogen Peroxide-Based or Preservative-Free Saline
- For Heavy Protein Deposits → Enzymatic Cleaner or Daily Cleaner
- For RGP/Hard Lenses → RGP-Specific Solutions

The ideal care system should have the following core requirements:

- Effective – reduce or eliminate ocular pathogens.
- Compatible – non-toxic to the ocular surface.
- Maximize comfort – reduce deposits and condition surface.
- Simple to use
- Affordable.

Aftercare eye checkups

- History taking
- Visual acuity
- Overrefraction
- Overkeratometry
- External examination
- Slit-lamp biomicroscopy

Category	Guidelines
Handling and Hygiene	- Wash hands with soap and dry before handling lenses. - Avoid lotions or oily soaps before touching lenses. - Use fingertips, not nails, to handle lenses and prevent damage.
Cleaning and Storage	- Clean and disinfect lenses after each use (except daily disposables). - Always use fresh solution—never reuse or "top off" old solution. - Store lenses in a clean case filled with disinfecting solution. - Replace your lens case every 1-3 months to prevent bacterial buildup.
Wearing Guidelines	- Follow the lens replacement schedule (daily, biweekly, or monthly). - Avoid sleeping in lenses unless prescribed for extended wear. - Remove lenses before swimming or showering to prevent contamination.
Avoiding Infections	- Never use tap water, saliva, or homemade solutions to clean lenses. - If lenses feel uncomfortable, remove them and inspect for damage or debris. - If irritation, redness, or pain occurs, remove lenses and consult an eye doctor.

Reference

- The IACLE Contact Lens Course module 5
- The contact lens manual, a practical guide to fitting, 4th edition

THANK YOU